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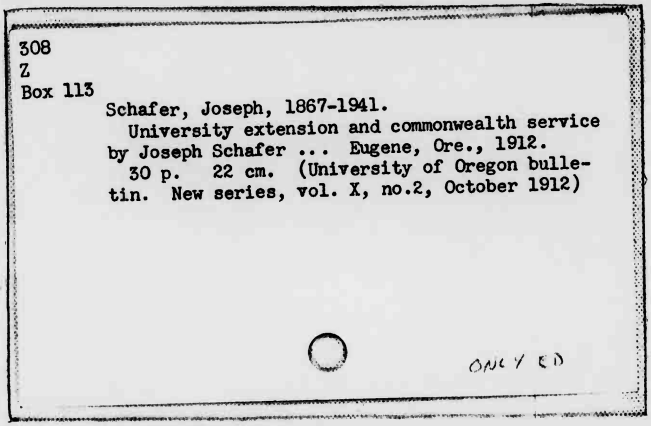

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UNIVERSITY OF OREGON BULLETIN

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UNIVERSITY EXTENSION AND COMMONWEALTH SERVICE

By

JOSEPH SCHAFER, Ph. D.
Professor of History and Director of University Extension

Published monthly by the University of Oregon, and entered at the post-office in Eugene, Oregon, as second-class matter

UNIVERSITY EXTENSION AND COMMONWEALTH SERVICE

By

JOSEPH SCHAFER, Ph. D.
Professor of History and Director of
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UNIVERSITY EXTENSION AND COMMONWEALTH SERVICE.

The University of Oregon is maintained by the people of Oregon as an agency of progress and general community welfare. Recognizing that the full utilization by a commonwealth of its material and spiritual resources depends upon the high average intelligence of all of its people, and also upon their industrial efficiency, and the presence everywhere of thoroughly trained men and women (the cutting edge of the blade of social endeavor), the state encourages with free tuition those young men and women who are willing to devote a number of productive years to the attainment of the most thorough training possible to them.

COMMONWEALTH SERVICE THE PRACTICAL IDEAL OF HIGHER EDUCATION.

But, although the primary aim is to furnish the opportunity of superior training to those young men and women whose spiritual impulses lead them to sacrifice on their own parts in order to secure it, yet it is coming to be recognized that the highest training for professional or other life activities cannot be gained in the cloistered seclusion once deemed a normal environment for the college man. Highest training involves the training of the whole personality, and this implies not only intellectual activity but also the activity of heart and of will which comes in richest measure to one imbued with the ideals and trained to the practice of twentieth century social service. The State University has herein a unique educational opportunity, since its class-room activities so naturally link themselves to that service for the commonwealth which is contemplated in a fully matured system of University activity, which should include community and commonwealth service as well as aid to aspiring individuals. To study any college subject for the sake merely of comprehending it is one thing; to study it with the idea of applying one's knowledge to the amelioration of existing conditions or the wise readjustment of the institutions which generate and determine these conditions is quite another. The first type of study leaves the personality in a relatively static position, the second is genuinely dynamic in its effect. The first yields *learning*, of a kind; the second yields *education*. Therefore, for the purpose of vitalizing higher education, the Universities are being forced to use the state in its widest signification—with its complex social, political and industrial needs and interests—as the chiefest of their laboratories. Through its use, they can make instruction practical, make all of the major sciences they profess *applied sciences*, not in a narrow or mercenary sense, but in a broad, generous, human sense; so that the young men and women who go out from their halls into the several life professions and callings will go equipped not alone with knowledge of subject and knowledge of process in its application, but with a purposeful ideal of zealous rational commonwealth service.

A TRIPLE ECONOMY IN UNIVERSITY EXTENSION JOINED TO COMMONWEALTH SERVICE.

University Extension thus reinforced, results in vitalizing the regular work of the institution as stated above, and it also affords the state just the kind of scientific aid which is needed for the solution of its special problems and for its best development under present day conditions. In

addition, there is a money economy in connecting the much needed outside work with an institution fully equipped for educational work of the highest grade. The existence of a University plant with its throngs of students eager to enlist in some significant idealistic cause, its group of trained specialists, its extensive and varied library facilities, its laboratories for scientific experimentation, makes an opportunity for economical and effective educational missionary effort which is not lightly to be set aside. For all of these resources, when properly directed, can be used in a multitude of ways to encourage and aid citizens who cannot be in residence at the institution, but yet are striving to push forward their education; or those who have the desire to employ any part of the equipment of the University to promote community welfare. The University of Wisconsin—to cite only one example—has carried so far these outside features of its educational activity that it has been said the campus of the University is bounded only by the state lines—that the people of Wisconsin are a people "going to school" to their state University.

EXTENSION WORK AT THE UNIVERSITY OF OREGON. A RETROSPECT.

That the University of Oregon has not been unaware of its extension function is shown by the fact that, with cramped resources, it has already occupied a number of well-defined areas in the extension field. The Correspondence Study Department, hardly more than two years old, has afforded help at their own homes to some six hundred men and women scattered through every county of the state and representing a considerable variety of occupations. Many of these persons were busy teachers, some were farmers, some housewives, some mechanics. There were cases of men working out courses of study by the evening fire in the logging camp, and similar cases connected with mining camps.

Less than five years ago, at the instance of the University Department of Economics and Sociology, the *Commonwealth Conference* was instituted for the scientific and practical elucidation of state problems pressing for solution. At these gatherings—usually limited to two days—which have deepened in interest year by year, men of science and men of affairs have consulted together in developing policies respecting *water power legislation, taxation, education, control of corporations, good roads, rural life uplift, the improvement of market conditions, workingmen's insurance, the minimum wage* and other matters of first rate social importance, with results which are already fructifying in enlightened public opinion and wise laws.

The Summer School or summer session of the University, was designed especially for teachers and those whose regular employments leave no other time for attendance at an institution of higher learning. During eight successive summers a six weeks course has been offered at the University. The school is now well established. This year a number of prominent educators from other states co-operated with some of the regular faculty to make the summer session one of the most vitally interesting and most valuable features of the University year. Nearly two hundred teachers, superintendents, principals, and others were regularly enrolled for the entire period of six weeks, while the public lecturers of the first two weeks were attended by these and by four or five hundred others not regularly enrolled.

The departments of the University have directed the research work of students into channels which make these researches valuable to committees of the Legislature, and to other students of state problems—and the professors have contributed freely of their time, especially during

summer vacations, in the study of such problems also, in some cases publishing the results in the form of bulletins for free distribution. The welfare literature issued from the University has already affected the state profoundly along some lines, for example in the economics of the good roads problem, in water power legislation, and in tax reform.

Problems in sanitation have been studied by professors and students for the benefit of municipalities, and chemical investigations have been carried on respecting certain of the state's natural resources. The Engineering department has published valuable monographic studies of some of Oregon's water powers. There is a lecture bureau at the University which has furnished lectures either singly or in series or courses to communities desiring them, the subjects covering a wide range and including education, science, sociology, economics, history, etc.

The High School Debating League, organized by the University includes some forty of the high schools of the state. In cooperation with the State Library Commission, the University has prepared bulletins outlining the leading questions of the day and arranging bibliographical data for their study by debating teams.

A number of Women's Clubs have availed themselves of the opportunity to secure aid from the University departments not only in shaping their study courses, but also in directing their welfare work.

NEW PLANS FOR UNIVERSITY EXTENSION AND COMMONWEALTH SERVICE.

The above sections summarize a few of the main features in the extension work of the past years which was designed to meet the most pressing demands, but which, by force of circumstances, was limited to portions of the field.

It is now proposed to enlarge these activities so as to meet, as adequately as may be, those needs of the people to which the University can properly minister. * To this end, we shall utilize more fully the existing organization, strengthened by the addition of forces representing practically all of the University departments; we shall expect regular students of the University to give to the work a portion of their time, not only for the sake of adding to the real value of their University education, but to habituate them while here to the character of missionaries of the public weal. The University invites the co-operation of the people of Oregon in the effort to make this work as fruitful as possible along every line. And in order to facilitate such co-operation, the following paragraphs are added to convey a clear idea of each of the specific kinds of service which the University has to offer, together with a statement of the conditions under which it can be best rendered.

THE CORRESPONDENCE-STUDY DEPARTMENT.

The Correspondence-Study Department of the Extension Division is designed to bring the help of the University directly to those citizens of Oregon of all ages who may be so situated as to be unable to attend an institution of learning but who are anxious to carry forward their

* See University of Oregon Bulletin, N. S. V. No. 1, September 1912, on "The proposed Commonwealth Service of the University of Oregon" by Professor F. G. Young, head of the department of Economics and Sociology.

education by employing to that end the hours of relaxation from their regular work, and who would be able to do this very advantageously under such guidance as the University can afford them. Some of these persons are already carrying courses, at large expense for fees, under the direction of private correspondence schools. It was found a few years ago that in the state of Wisconsin alone 37,000 persons were engaged in such study for which they were sending out of the state each year several million dollars. Since the establishment, four years ago, of the University department of correspondence study, some 7,000 persons have enrolled therein. The University is able to give them more adequate assistance at much less cost and the department has become so popular that the legislature of Wisconsin in 1911 voted $125,000 per year for the support of this and allied features of extension work.

At the University of Oregon the demand for correspondence courses has grown steadily for several years, and at the present time the number of inquiries from week to week is so large as to prophesy a total for the year of ten or twelve hundred persons. The applications are coming mainly from the following classes:

(1) The teachers in our public and private schools, a good proportion of whom are ambitious to improve their professional equipment both for the personal gratification implied in it and for the sake of the professional advancement which depends on uninterrupted intellectual growth.

(2) Men and women engaged in non-professional occupations who have the opportunity and the desire for self-improvement through one or more lines of systematic reading.

(3) Young men employed in clerical positions—banks and mercantile houses, on farms or in workshops, who are engaged in assembling funds to defray the expense of an education like Engineering, Law, Medicine, Journalism, Teaching or the Ministry, and who wish to shorten the period of necessary residence study at the professional school by making the best use of their time from month to month during the earning period.

(4) Young women who are engaged as clerks and stenographers who wish to fit themselves for teaching or for secretaryships requiring more advanced training, and who find themselves in possession of a good deal of time before and after office hours which can be profitably employed in regular progressive study.

(5) Men on farms, in shops, or in lumbering or mining camps who can make excellent use of courses in Mathematics, in Science or in Engineering as a partial equipment for their regular work.

(6) Young persons wishing to prepare for college, and others who have matriculated in college or technical schools, who can make use of vacation time or periods of enforced absence from school to advance their preparation.

THE INSTRUCTION IS BY MAIL. The instructor in each case prepares the outlines, which are sent to the student in the form of "lessons", with instructions for their preparation and return. The student's work is examined and criticised and returned for such correction or amplification as may be indicated upon the papers. Special directions and suggestions are added as they may be required by the individual student.

Beginning with the last quarter of the year 1912, important additional helps will be furnished periodically through the medium of the University Extension Bulletin, to be sent regularly to all correspondence students.

THE INSTRUCTION IS FREE. The student merely pays the postage on materials and directions sent him by mail, and the subscription price of the University Extension Bulletin. Postage is estimated at $1.00 for

each course and the cost of the Bulletin for one year will be $1.00 also. This will make a total registration fee of $2.00 for the first course, and $1.00 for each additional course, when more than one course is taken at a time.

THERE ARE NO ENTRANCE EXAMINATIONS or conditions of admission to the Correspondence-Study Department, and the ability and disposition to carry on work profitably is the sole condition of continuance in the Department. Each course is a unit of study. It must be completed within twelve calendar months from the time of registration or a new registration will be required.

CREDIT IS GIVEN for the satisfactory completion of a correspondence course, including an examination. Credits earned in correspondence courses by students are recorded in the office of the Correspondence-Study Department until such students register for regular residence work in the University of Oregon, when these credits may be transferred to the Registrar's office and counted towards graduation. The maximum number of college credits which may be earned by correspondence and applied toward the B. A. degree is 40 semester hours. Courses giving entrance credit are for students who cannot take a complete high school course and for teachers preparing for state examinations. Such courses cannot be taken for college credit unless so specified in the description of courses.

FORMAL EXAMINATIONS are required only when credit is desired. The examination for a course must be taken not later than three weeks after the last corrected report for such course has been returned to the student. Examinations are given at the University whenever possible, but other arrangements may be made if necessary.

CANDIDATES FOR THE DEGREE MASTER OF ARTS or Master of Science must complete at least one regular semester of study in residence, with the condition that all work in absentia for the Master's degree shall be done in regularly organized courses in the University of Oregon Correspondence-Study Department. Students wishing to do graduate work by correspondence should write for special instructions regarding the necessary procedure to secure such work.

TEXT BOOKS mentioned in the description of courses are to be purchased by the student. If they can not be secured conveniently through a local dealer, they may be ordered from the Correspondence-Study Department for the amount mentioned. The prices of books include postage.

CORRESPONDENCE COURSES OFFERED BY THE UNIVERSITY of Oregon are intended for residents of Oregon; but in a few cases those moving out of the state and those planning to come in have been extended the privileges. The view has been taken that those preparing for this University should be given every opportunity.

REGISTRATION.—To register for Correspondence courses fill out the blank at the back of this catalogue and send it to the Correspondence-Study Department, enclosing at the same time the required fees. If books are desired enclose the necessary amount.

The several departments of the University cooperate to enable the Correspondence-Study Department to offer the following list of courses.

DESCRIPTION OF CORRESPONDENCE COURSES.

1912-1913.

BOTANY.

Professor Albert R. Sweetser.

Instruction will commence in this work with the beginning of the college year, but enrollment may take place at any time during the year. Each student will be furnished outlines following in general the State Text. It will be the aim to direct in the observation of Nature rather than the study of the book. The only equipment necessary will be a hand magnifying glass costing not over one dollar, which can be purchased of the department at cost if so desired. The notes will be forwarded from time to time and returned after correction. A number of plants will be collected, studied and classified and sent for correction, the number to be limited only by the desire of the pupil. Specimens and sections for study will be loaned, a deposit being made to cover breakage or loss.

The object of the course will be threefold:

1 To assist teachers in their preparation for giving instruction in Nature Study and Botany.

2. To aid in the preparation for State Examinations.

3. For the benefit of those whether teachers or not, who may desire to obtain a knowledge of the wild flowers of Oregon.

On passing of an examination six college semester hours' credit or one entrance unit credit may be allowed.

TEXT: Bergen and Caldwell, "Practical Botany", Ginn & Co., $1.35.

ENGLISH.

Professor Edward A. Thurber.
Miss Julia Burgess.
Miss Mary H. Perkins.

1. *Entrance English Composition.* This course is planned from Espenshade's "Composition and Rhetoric", D. C. Heath & Co., Boston, prepaid $1.10. The work consists of answers to specific questions on punctuation, the use of words, and sentence structure; also the analysis of passages and a series of papers from developed paragraphs to longer themes in the various forms of discourse. On satisfactory completion of the course, including the examination, one entrance unit of credit will be granted.

2. *College English Composition.* This course runs parallel, in part, to work done in the Freshman year in the University. Topical outlines are required, and emphasis is placed on structure and fullness in the presentation of subjects. The text-book for the course is Canby's "English Composition in Theory and Practice", Macmillan, postpaid, $1.35. *Credit—Two college semester hours.*

3. *Journalism.* Professor Allen. Corresponding for the newspapers. A course in the preparation of copy for publication, and in recognition of news values. The instructor has had long experience in dealing with country correspondents on behalf of a city newspaper, and it is largely for the benefit of such correspondents and the papers employing them that the course is offered.

4. *Short Story.* Professor Thurber. The course in the Short Story may be taken by correspondence either as a year or as a half year course, in either case counting as one semester credit, unless arrangements are made for a fuller course than the one outlined. The book used

will be "Modern Masterpieces of Short Prose Fiction", by Waite and Taylor, D. Appleton & Co.

The student will be required to write analyses and discussions of these selections from various points of view, and also three short stories of some length.

DEBATING.

Mr. Carlton E. Spencer.

Training for Debating. A study in the form and methods of effective debating; taking up the choosing of the subject, research, analysis of the questions, evidence, the testing of evidence, the logical forms of argument, the brief, the development of the finished debate and refutation. The course is designed not only to increase proficiency in debate but to develop the ability to recognize sound argument and to form the judgment accordingly. Credit three semester hours.

Text: Essentials of Exposition and Argument, William Trufant Foster, Houghton Mifflin Co., price postpaid, $1.00.

ECONOMICS.

The following courses are designed to be helpful to all who aim to be of social service in connection with their professionad duties. They are peculiarly adjusted to the needs of all who wish to have a part in promoting the solution of present day problems.

The general plan is to get a comprehensive grasp of the principles of the subject as they are accepted by the best authorities in the different fields of study and then to make an intensive study of the special problems in which the student is interested. Where the number of applicants for the different courses make it feasible, arrangements will be made for lectures and discussions.

1. *The Principles of Economics.* Dr. J. H. Gilbert. Credit—six semester hours.

The following text books will be required for the course. Seager, "'Introduction to Economics" (third edition), Holt, $2.25; Ely, "Outlines of Economics" (revised editiôn 1908), Macmillan, $2.00; Seligman, "Principles of Economics," Longmans, $2.50.

2. *Money and Banking.* Dr. J. H. Gilbert. Credit—four semester hours.

Texts: Johnson, "Money and Currency", Ginn, $1.85; White, "Money and Banking", Ginn, $1.60; Scott, "Money and Banking", Holt, $2.10.

3. *Railway Transportation.* Professor F. G. Young. Credit—eight semester hours.

Texts: Johnson, "American Railway Transportation", Appleton, $1.60; Hadley, "Railroad Transportation", Putnam, $1.60.

4. *Sociology.* Professor F. G. Young. Credit—four semester hours.

Texts: Ross, "Social Psychology", Macmillan, $1.50; Cooley, "Social Organization", Scribner, $1.60; Small, "The Meaning of Social Science", University of Chicago, $1.60.

EDUCATION.

Professor Ayer and Assistants.

1. *Child Study.* Professor Ayer and Assistants. Credit—three semester hours.

The course will be a study of the human mind and personality through infancy, childhood and youth. Physical, social and moral development will be studied. Periods of growth, children's diseases, plays

and games, children's interests in nature and literature, boys' gangs will also be studied. The following books will be used as a basis for questions and papers:

Swift, E. J., "Mind in the Making, a Study in Mental Development," Chas. Scribner's Sons, New York, $1.60.

Hall, G. S., "Youth," Appleton, New York, $1.60.

Drummond, "Introduction to Child Study," Longmans, $1.85.

2. *Educational Psychology.* Credit—three semester hours.

This course will be the application of the fundamental principles of psychology to educational practice. Among others the following topics will be studied: Apperception, the true doctrine of interest, training the reasoning powers, memory, culture, formal discipline, the fallacies of phrenology, individual differences, inductive and deductive development lessons. The basal books in this course will be:

Bagley, W. C., "The Educative Process," Macmillan, $1.35.

Thorndike, E. L., "Principles of Teaching," A. G. Seiler, $1.35.

Keatinge, "Suggestions in Education," Macmillan, $1.85.

The satisfactory completion of the course entitles the student to six college semester hours' credit.

3. *School Administration.* Credit—six semester hours.

A complete course for superintendent and principals, which covers the entire ground of the organization of state, city, and local systems and includes among other topics the following: Local units of supervision, the financing of public education, the school house, text-books, and supplies, the teaching staff, the elementary course of study, grading and promotion, educational statistics and child labor legislation.

The following books will be used by students in the course:

(1) Dutton, S. T., and Snedden, David, "The Administration of Public Education in the United States." Macmillan & Co., New York, 1908, postpaid, $1.90.

(2) Chancellor, W. E., "Our Schools—Their Administration and Supervision." D. C. Heath, Boston, 1904, postpaid, $1.60.

(3) Report of U. S. Commissioner of Education, Washington, D. C., free.

(4) School Laws of Oregon, Salem, Or., 1909. These may be borrowed from any district school officer or they will be sent for twenty-five cents.

(5) Eighteenth Biennial Report of the Superintendent of Public Instruction of the State of Oregon, Salem, Or., free.

4. *Scientific Methods of Study.* Miss Hastings. Credit—two semester hours.

A course dealing with the problem of how to study and how to teach children to study. This course is intended to be of use to the high school teacher, the elementary school teacher, and the supervisor. A different set of lessons is prepared for each group as certain observations and some careful experiments are required. High school teachers will use the following books:

Dewey, "How We Think", Heath, $1.05.

McMurry, "How to Study and Teaching How to Study," Houghton, $1.35.

Johnston, "High School Education," Scribner, $1.60.

Books for elementary school teachers:

McMurry, "How to Study and Teaching How to Study," Houghton, $1.35.

Earhart, "Teaching Children to Study," Houghton, 65 cents.

Strayer, "A Brief Course in the Teaching Process," Macmillan, $1.30.

Books for supervisors:

McMurry, "How to Study and Teaching How to Study," Houghton, $1.35.

Dewey, "How We Think," Heath, $1.05.

Strayer, "A Brief Course in the Teaching Process," Macmillan, $1.30.

5. *School Management and Art of Teaching.* Credit—three semester hours.

While the text books indicate the scope of the course, the work will be in no wise confined to them, but will be supplemented by papers based on the student's experience. All papers and outlines prepared by the student will be corrected by the instructor and returned to the student for his further guidance.

Texts: Bagley, W. C., "Classroom Management, Its Principles and Technique," Macmillan, New York, postpaid, $1.35; Dinsmore, J. W., "Teaching a District School," American Book Company, New York, $1.10, postpaid; Colgrove, "The Teacher and the School," Scribner, $1.35.

ELECTRICITY.

Elementary Electricity. Professor R. H. Dearborn.

A simple non-mathematical course dealing with the generation and control of electric currents, and the operation of the more familiar electric appliances, as batteries, telephones, motors, generators, lamps, etc.

ENGINEERING.

1. *Freehand Lettering.* Assistant Professor Adams. Credit—two semester hours.

Extended practice in various styles of lettering commonly used on working drawings. Materials for the course, including the text will cost about $5.00.

2. *Mechanical Drawing.* Assistant Professor Adams.

This course teaches the use and care of drafting instruments, geometrical drawing, practical applications of the principles of orthographic projection to drafting-room practice, etc. Emphasis is laid upon neat, plain lettering, shop drawings, tracing and isometric drawing. The materials for the work, including book and drawing paper, cost about sixteen dollars and can be furnished by the Department if the student desires. A list of materials will be sent to any one on request.

Credit—Four college semester hours.

Text: Jamison's "Elements of Mechanical Drawing," Wiley, $2.50.

3. *Surveying.* Mr. C. A. McClain.

Theory of the adjustment and use of instruments, including especially the steel tape, the level and the transit; consideration of the common errors in surveying; reduction and platting of field notes; land survey computations; simple earth work computations, etc. Open to students who have had Trigonometry and Mechanical Drawing.

No field work is required but it is recommended that, if possible, the student make arrangements for the examination and occasional use of the different instruments as they are being studied.

Text: Tracy, "Plane Surveying," Wiley, $3.00.

MATHEMATICS.

Each difficulty experienced and reported by the student will receive careful individual explanation in detail. As soon as one lesson has been completed to the satisfaction of the instructor, the instructions for the proper lesson will be furnished.

FOR COLLEGE ENTRANCE CREDIT.

A1, A2, A3, ELEMENTARY ALGEBRA.

Dr. H. B. Leonard.

These three courses satisfy the entrance requirements in Algebra for the University of Oregon, and on the completion of each (including an examination) one one-half-entrance-unit credit will be given (page 46). The text-book used is Algebra for Secondary Schools (with answers) by Wells. It is published by D. C. Heath & Co. (387 Wabash Ave., Chicago), and can be obtained from them postpaid for one dollar and thirty-five cents ($1.35).

G1, G2, PLANE GEOMETRY (Prerequisite A1, A2, A3)
G3, SOLID GEOMETRY (Prerequisite G1, G2)
Dr. H. B. Leonard.

These three courses satisfy the entrance requirements in Geometry for the University of Oregon, and on the completion of each (including an examination) one one-half-entrance-unit credit will be given.

As compared with the ordinary high school course there will be less chance to do memory work and a better grasp of originals will have to be developed. Much attention will be given to the solving of problems and to the form of the written work.

The text-book used is Plane and Solid Geometry, revised by Wentworth & Smith. It is published by Ginn & Co. (378 Wabash Ave., Chicago), and can be obtained from them postpaid for one dollar and forty cents ($1.40).

30—ALGEBRA FOR TEACHERS.
31—GEOMETRY FOR TEACHERS.
32—MATHEMATICAL READING.
Dr. H. B. Leonard.

These courses are informal and are designed to meet individual needs. Perhaps a teacher that has specialized along other lines is compelled by the requirements of the school program to teach Mathematics and would welcome assistance in working up the courses and in planning methods for making clear the difficult points. Again a student may desire to review courses already taken and to gain, incidentally, a greater skill in attacking originals or in solving problems. Or it may be that the school library can not furnish the information wanted on some subject and it is desired to take advantage of the resources of the library of the University.

COURSES FOR COLLEGE CREDIT.

1—ADVANCED ALGEBRA.
Dr. H. B. Leonard.

This course is the equivalent of the first semester's work for freshmen in literary courses. Upon its completion (including an examination) three university semester-hour credits will be given. The text-book used is College Algebra by Rietz and Crathorne. (Henry Holt and Co.) It may be obtained, postpaid, for $1.50.

1½—PLANE TRIGONOMETRY (Prerequisite A1, A2, A3, G1, G2).
Dr. H. B. Leonard

This course is the equivalent of the second semester's work for freshmen in literary courses. Upon its completion (including an examination) three university semester-hour credits will be given. The text-book used is Plane Trigonometry (with tables), second revised edition, by Wentworth. It is published by Ginn & Co. (378 Wabash Ave., Chicago), and can be obtained from them postpaid for one dollar ($1.00).

2—ANALYTIC GEOMETRY (Prerequisite 1, 1½)
Dr. H. B. Leonard.

This course is the equivalent of the last part of the work for freshmen engineers. Upon its completion (including an examination) four university semester-hour credits will be given. The text-book used is Analytic Geometry by Wentworth. It is published by Ginn & Co. (Wabash Ave., Chicago), and can be obtained from them postpaid for one dollar and forty cents ($1.40).

3—DIFFERENTIAL CALCULUS (Prerequisite 2).
4—INTEGRAL CALCULUS (Prerequisite 3).
Dr. H. B. Leonard.

These two courses are the equivalent of the work for sophomore engineers. Upon the completion of each (including an examination), five university semester-hour credits will be given. The text-book used is Differential and Integral Calculus by Granville. It is published by Ginn & Co., and can be obtained from them, postpaid, for $2.60.

17—ANALYTICAL MECHANICS (Prerequisite 4).
Dr. H. B. Leonard.

The text-book used is Theoretical Mechanics by Johnson. It is publish by John Wiley and Sons (New York), and can be obtained from them postpaid for three dollars and fifteen cents ($3.15). Upon the completion of this course (including an examination) six university semester-hour credits will be given.

TEACHING OF HIGH SCHOOL MATHEMATICS.

Professor E. E. DeCou.

A course dealing with the best methods of teaching arithmetic, algebra, geometry and trigonometry, and giving something of their history. Two semester-hours' credit.

Text-books used: The Teaching of Mathematics in the Elementary and Secondary School, by J. W. A. Young; published by Longmans, Green & Co., 91 and 93 Fifth Ave., New York; price, $1.65. The Teaching of Elementary Mathematics, by David Eugene Smith; published by The Macmillan Company, New York, price $1.10.

HISTORY.

1. *Oregon History.* Dr. Joseph Schafer.

The outline of topics for this course will correspond in general to the chapter heads in the text-book named below, which will form the basis of the study. In addition, however, the professor in charge will from time to time present supplementary matter, and the detailed instructions for study will contain references to other materials, accessible to the student.

Three semester hours of college credit or one half entrance unit credit will be given upon the satisfactory completion of the course.

Text-book: Schafer's "A History of the Pacific Northwest." The Macmillan Company, New York, postpaid $1.35.

2. *Recent European History.* Dr. R. C. Clark.

The course will furnish a knowledge of the origin of the present European states and their chief lines of development during the nineteenth century. It will give a general knowledge of important industrial and social changes but will give more particular attention to political and constitutional problems. The history of the expansion of Europe into Asia and Africa, the relations of the European states with the Orient,

imperial federation, the movement for world peace and international relations are other subjects that will be considered. In short the student will have his knowledge of the past connected up with his morning paper.

Four semester hours of college credit will be given upon the satisfactory completion of the course.

Robinson and Beard, "Development of Modern Europe," second volume (postpaid, $1.70), will be the guiding text. It will be supplemented with their "Readings in Modern European History," second volume (postpaid, $1.60). Ginn & Co.

3. *English History.* Dr. R. C. Clark.

Use any good text, such as Andrews or Cheney. Have available for supplementary reading some one of the longer histories of England, such as Gardiner's "Student's History" or Green's "Short History of the English People", and one of the small source-books, such as Kendall, Colby, or Cheney's "Readings in English History".

Credit—Three semester hours, or one-half entrance unit.

LITERATURE.

1. *Socially Significant Literature of Today.* Professor Howe. A reading course for educated citizenship clubs.

Things happen in Europe before they do here. As the sun rises earlier in the east, so density of population, with all its problems of slums, overcrowding, unemployment, strikes and suffering, moves from Europe, through the eastern portion of the United States, toward Oregon. Consequently the great writers of the eastern hemisphere have seen, analyzed, and discussed these problems for us, and in our efforts to solve our own political and social difficulties, we should make use of their experience, avoiding their failures and profiting by their successes.

This course of study is not at all exhaustive, but has been chosen to give the men and women of Oregon a clue to the problems discussed and the light afforded by the leading writers of the last quarter of a century in England and on the continent of Europe.

The course makes little effort to appraise these writers as artists. The directions for study aim rather to guide the reader's attention effectively to *the value for Oregon citizenship in each book.*

The University will furnish the set of twelve books, postpaid, for $12.35. The fee for registration is $2.00. It is therefore possible for an Educated Citizenship Club of fifteen members to obtain at a cost of less than one dollar apiece, the twelve books, the complete study directions, and instructions through the mails by members of the University faculty, the instruction taking the form of careful comment on reports sent in by the Secretary of the club. In addition, Professor Howe will visit each club of twelve to fifteen members two or three times during the year for lectures and personal conference on the work as desired.

The works and authors included in this course are: Ibsen, An Enemy of the People and The Wild Duck; Gorky, Mother; Chesterton, The Ball and The Cross; Tolstoy, Anna Karenina; Galsworthy, The Island Pharisees; Andreiev, Anathema; Morris, News from Nowhere; Zola, Labor; Wells, Tono-Bungay; Maeterlinck, The Treasure of the Humble; Shaw, Three Plays for Puritans; Bennett, A Great Man.

2. *English Classics.* Professor H. C. Howe. Credit—One entrance unit.

This course consists of the critical study of six books chosen from the following list of classics. Three of the books must be chosen from Group 1 and three from Group 11. Students registering for the course are requested to send the names of the books they wish to study with their application for registration.

GROUP I.

Tennyson—Idylls of the King.
Ruskin—Sesame and Lilies.
Carlyle—Heroes and Hero Worship.
Irving—The Sketch Book.
Carlyle—Essay on Burns (with questions on poems by Burns).
Dickens—The Tale of Two Cities.
Eliot—Silas Marner.
Scott—Ivanhoe.
Scott—Marmion.
Long's Edition of American Poems.
Lamb—Essays of Elia.
Stevenson—Treasure Island.
Shakespeare—Julius Caesar.
Holmes—Autocrat of the Breakfast Table.
Riis—The Making of an American.

GROUP *II.*

Coleridge—The Ancient Mariner.
Franklin's Autobiography.
Shakespeare—Macbeth.
Webster—Bunker Hill Monument Oration.
Poe—The Gold Bug.
Lowell—The Vision of Sir Launfal.
Emerson—Selected Essays.
De Quincey—Joan of Arc and the English Mail Coach.
Addison and Steele—The Sir Roger DeCoverley Papers.
Macaulay—Lays of Ancient Rome.
Burke—Speech on Conciliation with America.
Irving—Oliver Goldsmith.
Hale—The Man without a Country.
Gaskell—Cranford.

3. *Shakespeare.* Professor H. C. Howe. Credit—Six semester hours.

The student is expected to purchase the complete one-volume Shakespeare in the Cambridge series published by Houghton Mifflin and Company, $2.50. It will be desirable, but not required, for each study group to purchase either Dowden's "Shakespeare, His Mind and Art," or Hudson's "Shakespeare's Life, Art and Characters," or both. The former is published by Harper & Bros., for $1.75, the latter (in two volumes) by Ginn and Company for $4.00. The Hudson is the most complete Shakespeare study available. Sixteen plays will be read, and directions for study, and lists of questions on each will be sent to the student, in turn. The large collection of critical literature at the University will also be drawn upon, and extracts from critics of diverse schools of interpretation will be supplied, as to classes in residence at the University. A written report on each play, as read, will be required, giving the answers to a list of questions sent for that purpose. These papers will be corrected by the instructor, and returned to the student, for his further guidance.

4. *British Poets of the Nineteenth Century.* Miss Mozelle Hair. Credit—Six semester hours.

This course will be a critical study of the most important and typical poems of Wordsworth, Coleridge, Scott, Byron, Shelley, Keats, Landor, Tennyson, Elizabeth Barrett Browning, Robert Browning, Clough, Arnold, Rossetti, Morris and Swinburne. The aim will be to enable students to read these poets intelligently and gain a knowledge of the significance in literature of each poet's work.

The course is intended for two distinct classes of students; those who want college credit for their work and those who do not. For those who do not want college credit the book, British Poets of the Nineteenth Century by Curtis Hidden Page, will be sufficient. For those who want college credit the following books will be necessary:

British Poets of the Nineteenth Century by Curtis Hidden Page, $2.00. Published by Benjamin H. Sanborn & Co., New York and Chicago.

Byron's complete poems (Cambridge Edition) $2.50.

Tennyson's complete poems (Cambridge Edition) $1.60, or the Grosset and Dunlap reprint of the Globe Edition, 75 cents.

Browning, "The Ring and the Book," Houghton, Mifflin Co., $1.50, or Browning's complete works (Cambridge Edition) $2.50.

Swinburne's "Atalanta in Calydon," (Mosher) $1.00.

Morris, "Sigurd, the Volsung," Longmans, Authorized American Edition, $2.00.

PHYSICS.

Professor W. P. Boynton.

1. *Elementary Physics.* The work follows the State High School Course, and when supplemented by a satisfactory laboratory course (in a high school or the Summer Session of the University, for example) will satisfy the entrance requirements of the University. Each difficulty experienced and reported by the student will receive careful individual explanation. The text-book used is Millikan and Gale's First Course in Physics, published by Ginn & Co., and sent postpaid for $1.35.

2. *Electricity and Magnetism.* Credit—three semester hours.

The course is based upon "An Elementary Book on Electricity and Magnetism and Their Applications" by Jackson & Jackson, published by the Macmillan Co., and sent postpaid for one dollar and fifty cents ($1.50).

The authors are teachers of Electrical Engineering of high standing, and the text, while fairly elementary in grade, gives a considerable discussion of dynamos, motors, electric lighting, wiring, telephones, and other engineering problems. Difficulties reported and questions asked will receive careful individual answers.

3. *Sound and Music.* Credit—two semester hours.

An introduction to the theory of Sound, with applications to such musical problems as harmony and discord, typical musical instruments, and true and tempered intervals as used in tuning musical instruments. Some familiarity with music and musical notation will be helpful in the course. Suitable books will be recommended. On satisfactory completion of the course, including the examination, two semester hours of college credit will be granted.

4. *History and Teaching of Physics.* Credit—two semester hours.

This course presupposes a reasonable familiarity with the more elementary facts and ideas of general Physics. The text-books used are Cajori's History of Physics, published by the Macmillan Co., and sent postpaid for one dollar and seventy cents ($1.70), Smith and Hall's Teaching of Chemistry and Physics in the Secondary School, published by Longmans, Green & Co., and sent postpaid for one dollar and sixty cents ($1.60), and Mann's Teaching of Physics, published by the Macmillan Co., and sent postpaid for one dollar and thirty-five cents ($1.35).

PSYCHOLOGY.

Professor Edmund S. Conklin.

1. *Elementary Psychology.* Credit—four semester hours.

This course will consist of outlines of structural psychology, treating

methods of psychology, neural action and habit attention, sensation, perception, imagination, memory, forms of reasoning, reflex action and instinct, emotion, volition, character and will. Texts: Baldwin, J. M., "Story of the Mind," Appleton, New York, forty cents. Angell, J. R., "Psychology, Fourth Edition Revised," Henry Holt, 1909, $1.70. Read, "An Introductory Psychology," Ginn, $1.10.

ADVANCED PHYSIOLOGY.

Professor Bovard.

For those expecting to teach Physiology in the High Schools or those who have had the Elementary Course and wish to extend their knowledge by laboratory work.

In order to enroll in this course it will be necessary that the student have access to a microscope and provide himself with some small equipment of laboratory glass ware, such as test tubes, beakers, etc.

Hough and Sedgwich's "Human Mechanism" will be used as the text. The price is $2.00 postpaid. Laboratory guides will be provided by the department. The student will be expected to pay the cost of all materials furnished, or make good the loss of materials loaned.

This course will not be given until the spring of 1913.

COURSES FOR TEACHERS.

The following courses have been prepared especially for teachers intending to take the examinations for State Certificates. Entrance credit only is given for these courses:

1. Algebra; Wells Algebra for Secondary Schools, Heath, $1.30.
2. Composition; Herrick and Damon, Scott, Foresman, $1.10.
3. Literature, American; Newcomer's American Literature, $1.10.
4. Physiology; Hutchinson, $1.10.
5. Psychology; Read, An Introduction to Psychology, $1.10.
6. Botany; Bergen, Elements of Botany, $1.35.
7. Geology; Le Conte, $1.15.
8. Geometry; Wentworth.
9. History, General; Meyers' General History, $1.60.
10. History of Education; Davidson, $1.10.
11. Literature, English; Newcomer's English Literature, $1.35.
12. Physics; Millikan and Gale, A First Course in Physics.

STUDY COURSES FOR CLUBS.

In addition to the courses for individual students the Correspondence-Study Department is able to offer several courses prepared especially for the use of women's clubs, teachers' study clubs and other groups of persons whose common interest in some subject makes group study desirable. The registration fee for clubs is $2.00 and all communications and papers are sent to the secretary of the club. If regular instruction is desired on any of the courses, a definite statement to this effect must be made by the secretary of the club at the time of registration. The instruction will take the form of careful comment upon reports prepared according to the directions for study given for the course, and sent in by the secretary of the club.

The University library will be able to supply a limited number of reference books to clubs using these outlines. Applications for such books should be made through the Correspondence-Study Department.

1. *The History of Art.* The course covers the history of architecture, sculpture and painting, both ancient and modern. In architecture the work begins with the Egyptian architecture and is carried through the modern. In sculpture and painting the work begins with the Greek and runs through the modern. Typical examples of the various periods and schools are discussed.

The University library is starting a collection of art photographs which will be available for clubs taking the course. These photographs are the well known Anderson Prints.

2. *Oregon History.* This course is baised on Schafer's "A History of the Pacific Northwest" and traces the development of the Northwest with particular reference to Oregon. The outline also calls attention to some of the present day problems in Oregon.

3. *Economic Problems.* Some of the topics for study suggested in this outline are: City Planning, Economy and Social Commonwealth Interests, System of Taxation, The Domestic Servant and the Farm Laborer, The Home and Woman's Part in the Social Progress. The aim of the course will be to arouse a greater interest and enthusiasm in problems relating to the social and educational welfare of the community and to encourage investigation along these lines.

4. *Shakespeare.* A course arranged for twelve lessons or programs designed to give a knowledge and appreciation of twelve plays. The plays are to be studed in chronological order with the purpose of showing the development of Shakespeare's mind and art.

5. *British Poets of the Nineteenth Century.* This outline is designed especially for the use of Women's clubs and contains suggestions for sixteen programs. The aim is to give a general survey of nineteenth century poetry through the study of such poets as Wordsworth, Coleridge, Scott, Byron, Shelley, Tennyson, the Brownings, Rossetti and Morris.

EXTENSION LECTURES.

Experience at this and other universities has shown the advantage of combining with the correspondence work in any branch of study, a brief course of lectures delivered at centers most accessible to the correspondence students and designed to intensify students' interest in the subject. Not all correspondence students can be reached in this way, it is true, but, on the other hand, many persons who are not correspondence students will receive the benefit of such lectures wherever they can be given and thus a double utility will be secured. Sometimes too, it will be possible to offer courses of extension lectures in subjects not given as correspondence studies. These will be designed either for the general public or for selected groups of interested individuals and they will not follow the development of a subject systematically but will aim to stimulate thought and private study by illuminating the higher peaks of the subject.

The Extention Division is glad to be able to announce, for the school year 1912, 1913, the following lectures and lecture courses by members of the regular Faculty. These lectures are given free of charge, the expenses of the lecturer alone being chargeable to those receiving the service.

EXTENSION LECTURES.

Herbert Crombie Howe, B. A., Professor of Modern English Literature.

1. The Social Utility of Literature.
2. The Study of Shakespeare.

3. The Ins and Outs of Shakespeare Criticism.
4. The Education of a Free People.
5. Wordsworth: Showing the Value of Poetry for Moral Education.
6. The Teaching of English Literature.

Friedrich Georg G. Schmidt, Ph. D., Professor of the German Language and Literature.

1. Goethe's Faust (Illustrated).
2. Schiller (Illustrated).
3. German Universities (Illustrated).
4. German Commerce and Industry.
5. German Life and Custom.
6. Modern Germany.
7. Teaching of Modern Languages.

Albert R. Sweetser, M. A., Professor of Botany.

1. Our Native Oregon Trees and Schrubs.
2. The Teaching of Botany, its Meaning and Method.
3. A Toadstool Talk.
4. Some Microscopic Friends and Foes of our Everyday Life.
5. The Breeding of Plants and Animals, Evolution from Darwin to Mendel.
6. The Biological Basis of Eugenics.
7. Pure Water, Domestic and Municipal.
8. The Busy Broom and the Dreadful Duster.
9. All Out-doors and Then Some. Ventilation vs. the White Plague.
10. Vegetal Foods, Pure and Adulterated.

Robert C. Clark, Ph. D., Professor of History.

1. The Lesson of Ancient Democracies.
2. Causes of the French Revolution (three lectures).
3. The Portugese Revolt.
4. Church and State in France.
5. Moral Education in France.
6. The "Unspeakable Turk."
7. Revolution and Reaction in Russia.
8. Democratic Movements in England (three lectures) *a* National Insurance, *b* Reform of Parliament, *c* Home Rule.
9. The Present European Situation, Does it Portend War?
10. The Place of History in Education.
11. What History To Teach.
12. How To Teach History.

Edward H. McAlister, M. A., Professor of Civil Engineering.

1. The Panama Canal.
2. The Los Angeles 250-mile Aqueduct.
3. Notable Irrigation Works.

Orin Fletcher Stafford, M. A., Professor of Chemistry.

1. The Making of a Solar System.
2. Can We Have a Scientific Explanation of Life.
3. What Matter is Made Of.
4. Mountains of the Third and Fourth Generation (Earth History of the Region of the Grand Canyon of the Colorado).
5. Pure Water and How To Get It.
6. The Making of Roads.
7. Food and Ammunition from the Air.
8. Where Man Outdoes Nature.
9. At the Extremes of Temperature.
10. The Chemistry of Photography.
11. Precious Stones and Their Winning.

Lectures upon the title following are popular discussions of the industrial and industrial-art aspects of things which enter into the every-

day life of all. They are illustrated in each instance with lantern slides and actual exhibits of materials.

12. The Story of Iron and Steel.
13. The Story of the Sugars.
14. The Story of Glass.
15. The Story of Pottery and Porcelain.
16. The Story of Petroleum and its Products.
17. The Story of Cement.
18. The Story of Coal.

Edgar E. DeCou, M. S., Professor of Mathematics.

1. The World's Peace Movement.
2. Twentieth Century Canada.
3. Teaching of High School Mathematics.

Miss Julia Burgess, M. A., Instructor in English and President of the Eugene Woman's Club.

1. The Community—The Enlarged Home of Woman or Woman's part in Civic Housekeeping.
2. Legislation that Waits for Woman.
3. Social Settlements and Social Centers.
4. The Twentieth Century Club Women.

Edward A. Thurber, M. A., Professor of Rhetoric.

1. The Literary Art of Tolstoy.

Mary H. Perkins, M. A., Instructor in Rhetoric.

1. Alcoholism.

Fred C. Ayer, Professor of Education.

1. Social Heredity vs. Physical Heredity; an Interpretation of Eugenics from the Viewpoint of Education.
2. The Natural Environment of the School.

Mrs. Mable Holmes Parsons, A. B., Instructor in English Composition, Late President of the Medford Woman's Club.

Woman in relation to:

1. The Young Citizens of the Public Schools, *a* Organization, *b* Practical Ideals.
2. The City Beautiful, *a* Design, *b* Utilization of Neglected Areas, Parking Strips, Vacant Lots, etc., *c* methods.
3. City Sanitation, *a* Personal Surveys, *b* Infections, *c* Enforcements, *d* City Clean-ups.
4. The Social Evil, *a* Statistics, *b* Prevention, *c* Protective Officers, *d* Practical Ideals.
5. Themselves, True Inwardness of Organization and Co-operation in Women's Clubs.
6. The Social Conciousness, *a* Sentimentality vs. Morality, *b* New Keynote of Democracy vs. Old Keynote, etc., *c* Cultural Responsibility.

Timothy Cloran, Ph. D., Professor of Romance Languages.

1. Spain and the Alhambra (with slides).
2. Spanish Life and Education.
3. Paris (would have to get slides).
4. Strassburg.
5. Rousseau and his influence.
6. European Universities and the Reorganization of American Education.
7. Dante.

Miss Montana Hastings, B. S., Assistant Professor of Education.

1. The School as a Social Center.
2. The Montessori Method and its Place in American Education.
3. Teaching Boys and Girls to Study.
4. The Status of the Teacher in France, Germany, England, and the United States.

Frederick Stanley Dunn, M. A., Professor of Latin Language and Literature.

Group. 1. The Classics.

An Eye-Winess in Cæsar's Gallic Camp.
The Personal Relations of Cæsar and Cicero.
Veni, Vidi, Vici.
By-Paths in Caesarean Bibliography.
The Deification of Caesar.
The Julian Star.
Vergil's Aeneid (Illustrated).
Homer's Hades.
Caesar's Wives.

Group 2. Historical.

The Passing of the Etruscans.
The Second Fall of Rome.
Benjamin Franklin Before the Revolution.
The Julian-Claudian House (with projectoscope).

Group 3. Antiquities and Archaeology.

The Passing of Old Rome (Illustrated).
The Acropolis (Illustrated).
The Catacombs.
The Pyramids.
The Seven Wonders of the World.
The Eleusinian Mysteries.

Group 4. Church and the Bible.

Origin of the Old Testament.
The Pharaohs of Exodus.
The New-Found Sayings of Jesus.
Sanity and Insanity in Religion.
The Church Beautiful.

Group 5. Miscellaneous.

The Biggest Bear-Story Ever Told (Astronomical, with charts).
The Educational Value of Art.
Latin Wit and Humor.
From Pumpkin-head to God-head. (A Latin Farce).
Portraitures of Roman Emperors from Historical Novels.
The Historical Novel in the Class-room.
The Sangreal.

Archibald F. Reddie, B. A., Professor of Public Speaking.

1. Cakes and Customs, a Summer's Experiences in Scotland.
2. The Speaking Voice, its uses and abuses.
3. The Children of Shakespeare's Fancy.
4. Dramatics and their Presentation.
5. The Drama as a Factor in Education.

Note: Professor Reddie has an extended repertory of dramatic and interpretative readings of which printed copies will be furnished to individuals, clubs and associations desiring to arrange with him for entertainment. (Ed.)

W. P. Boynton, Ph. D., Professor of Physics.

Wireless Telegraphy. With lantern slides and apparatus.
Radio-Activity and X-Rays. With lantern slides.

For both of above lectures state if electric current is available, and whether A. C. or D. C.

Science and Faith. Especially of interest to Y. M. C. A.'s and denominational schools, but entirely free from any sectarian character, and not unsuited for any school audience.

Biographical sketches of any of the following can be given on about a week's notice:

Maxwell, the creator of the Electro Magnetic Theory; Helmholtz, co-ordinator of music, art and science; Kelvin, the wizard of cable telegraphy; Rowland, America's greatest physicist.

Bertha Stuart, M. D., Director of Physical Education for Women.

Course of Lectures on Personal Hygiene.

1. How to Stand and Walk.
2. Sense and Non-sense in Dress.
3. The Cause and Cure of Colds.
4. Food and Diet.
5. The Pelvic Organs—their Physiology and Hygiene.

Other Lectures.

1. Play and Playgrounds.
2. Open Air Schools and School Ventilation.
3. Sex Hygiene.

John F. Bovard, M. A., Professor of Zoology.

1. Modern Aspects of the Origin of Life.
2. The Scope and Importance of Mendels Law.
3. Economic Importance of Marine Investigations.
4. Game Fish, their culture, protection and economic value.
5. Our Big Game, its protection and economic value.

(The last two lectures are prepared at the instance of the State Fish and Game Commission.)

Mrs. E. M. Pennell, Instructor in English.

1. Three Masterpieces in Architecture.
2. St. Gaudens and his Work.
3. Raphael—His Madonnas.

Edmund S. Conklin, Ph. D., Professor of Psychology.

1. Psychological Facts and Fictions.
2. Mental Efficiency.
3. Psychological Helps in Teaching.
4. Psychology for Sunday School Teachers.
5. Characteristics of Adolescence.

George Rebec, Ph. D., Organizer and Lecturer,
University Extension Division.

We are very glad to announce that Doctor Rebec, who was for many years a professor in the Philosophy department of the University of Michigan and who made a home for himself and his family on an Oregon farm in order to recruit his health, has consented to give his entire time to the service of the people of Oregon through the Extension Division of the University. He is prepared to lecture on a variety of subjects, educational and sociological. Dates can be arranged for Doctor Rebec for any portion of his time which is still free.

P. L. Campbell, President of the University of Oregon.

President Campbell will occasionally be able to accept invitations to

lecture, though his time is so fully occupied with administrative duties that it will be necessary to limit closely such engagements.

Joseph Schafer, Professor of History,
Director of University Extension.

Professor Schafer is prepared to accept invitations to lecture, especially on Friday and Saturday evenings, his school days being fully occupied with class work. He will give single lectures on current educational, social, and other questions, and if desired, will deliver extension lectures as follows:

1. The Rise and Progress of Democracy. (Six lectures).
2. Oregon and the Pacific Northwest. (Four lectures).
3. The Educational and Social Value of Local History.
4. The Relation of History to the Problem of Moral Education.
5. The American West and Democracy.

Those wishing to arrange for lectures address Dr. Joseph Schafer, University of Oregon.

THE UNIVERSITY LIBRARY AND EXTENSION WORK.

The University Library contains now about 40,000 volumes, two-thirds of which have been added during the past four years. These books have been selected with a view to meeting the needs of the members of the Faculty and the students, but it is the desire of those administering the Library to extend its usefulness as generally as possible to the people of the state. At present the Library does serve those not in residence at the University in the following ways:

(1) It tries to be of assistance to the public and school libraries of the state by offering to lend to them from its collection, as it is able to, books that they need to meet some of the special and exceptional demands of their readers.

(2) It loans from time to time to the correspondence students of the University books which they desire to supplement the textbook work assigned in the courses taken.

(3) It sends out collections of books to various study clubs that are following courses outlined by the Correspondence-Study Department.

(4) The Library is available for reference purposes to all readers who are able to come to Eugene to use it.

(5) The Library also does its best to answer inquiries from any persons wishing information of various sorts that can be briefly given. The Library staff is in close touch with the members of the University Faculty, a body of experts in the fields of literature, the sciences, art, engineering, history, politics, etc., and their knowledge regarding such matters as can be readily handled by correspondence is available to those who wish to apply for it. Information especially regarding the best literature of various subjects—where it can be found, etc.—will gladly be furnished.

(6) The University has something of a collection of unbound duplicate periodicals which it is glad to send out to individuals wishing material on topics of interest.

(7) In cases where the services of copyists are desired to make digests or copies of library material that cannot be loaned, competent persons will be engaged who will do the work at reasonable rates.

(8) The Library has started a collection of art photographs—reproductions of masterpieces of architecture, sculpture, and painting—which will be available for the use of study clubs which are following the course in the history of art which is outlined by the Correspondence-Study department of the University.

(9) The Library is glad to be of such service as it can to the professional men and women of the state—the doctors, lawyers, ministers, engineers, journalists, teachers, etc., in meeting their special problems and it welcomes at all times requests and inquiries, which it answers to the best of its ability.

(10) Assistance is also gladly rendered from time to time to state, county, and municipal officials and members of public commissions in furnishing information and data of importance to them in their work.

Those desiring help from the Library are requested to address M. H. Douglass, Librarian, University of Oregon, Eugene.

COMMONWEALTH SERVICE.

The service implied in offering the Correspondence-Study courses is directed to dispersed individuals. The Extension Lectures are for the benefit of such individuals as may be brought together to hear them. But the University has a still higher, more general service to offer in which the object is to increase the efficiency of all existing agencies of progress by undertaking a scientific study of the conditions under which they can best do their work. The social sciences—history, economics, sociology, psychology—are as applicable to the social problems which confront and distress our people as are the physical sciences to the material problems. The University is equipped to help the people solve both classes of problems. This will be shown by means of the following brief descriptions of pieces of work hitherto done.

WATER POWER ON THE SANTIAM RIVER,

By E. H. McAlister, Dean of the College of Engineering, University of Oregon.

A significant foreward is uttered in the explanatory note which precedes the body of the work which constitutes this pamphlet, and the following is a quotation therefrom:

"It is believed that the University, while increasing its store of useful knowledge for the immediate benefit of its courses of instruction, can contribute materially to the industrial development of the state; and this too at a minimum of expense, since it already has an organized corps of men, well trained in their specialties, receiving a regular salary, and having a very considerable equipment of field instruments, apparatus and laboratory facilities. * * * The University feels under obligations to do what its resources will permit, in making the largest possible return to the state for the cost of its equipment and maintenance."

The survey of the Santiam River was undertaken by Professor McAlister and a corps of able assistants with the avowed purpose of commonwealth service, and the results of that survey were given to the public, by way of this pamphlet, in November of 1904.

Under the head of *General Description*, four kinds of work are mentioned as having been performed: (1) "Leveling to determine the elevation of the river surface from point to point, the amount of fall between any two points being directly shown by the difference of elevation; (2) a transit traverse, showing the windings of the stream bed and distances along the bank; (3) astronomical observations for the correction of azimuths carried forward by the transit; (4) measurements of the stream flow, or the number of cubic feet of water passing a given section of the river in a second of time."

The Santiam River has its source in the snow banks of Mount Jefferson and forms the boundary between Linn and Marion Counties. The survey covered a stretch of 24 miles of this river, from above an abandoned station called Idanha, to Mill City. The findings of the survey are important. The discharge of the stream above Detroit was found to be 1228 cubic feet per second; below Blowout Creek 1899 cubic feet per second; and at Mill City 2191 cubic feet per second. These measurements were taken late in June and give therefore the average summer flow. The total fall of the river in the 24 miles was found to be nearly 900 feet, and this, in connection with the three measurements previously mentioned, demonstrates that over the course of 24 miles 175,000 horse power is continuously exerted. The depth and precipitous character of the river canyon would render impracticable any general canal building, and indicate a high dam controlling the entire force of the stream as the best solution. Professor McAlister points out that at Niagara the height of such a dam would be about 80 feet, that a 15,000 horse power plant would here be possible, and that the cost of fluming would not be too considerable, as there are at this point much timber, a number of saw mills and a railroad for ready transportation. As there are fully 100,000 horse power which could be economically developed, the stream would admit of a number of plants of horse power varying from 10,000 to 20,000. The author suggests that with an abundance of water power there is small excuse for paying heavy transcontinental freight on manufactured articles; that with perfected heating appliances, water power should furnish us with cheap electricity; and says in conclusion, "Probably there is no other stream in this part of the state where plants of the capacities herein stated could be installed at so low a cost."

The recognized value and significance of the information afforded by this survey have been attested by the steady demand, which has come out of the east, from capitalists and parties interested in hydro-electric developments, for extra copies of the pamphlet. Recently, moreover, surveying and business like maneuvers have been noted at Niagara, the place cited by Professor McAlister as a practicable location for a dam.

An earlier publication of which Professor McAlister was the author, Water Power on the McKenzie River, is also achieving its recognition as a voice of authority in water power development. Some company, assumed to be the Oregon Power Company, is busily surveying at Martins Rapids, in the McKenzie River, to the possibilities of which point marked reference had been made in the pamphlet, and it is worthy of note that this same company has also begun the construction of a new road in the immediate vicinity of the Rapids.

MINERAL RESOURCES AND MINERAL INDUSTRIES OF OREGON,

By Professor O. F. Stafford,

University of Oregon Chemistry Department.

This is a Bulletin which has met a widely felt need. In it much illuminating and valuable information is furnished concerning all the more important known mineral deposits of the state; veins and mining properties are described and a diagram and interesting illustrations are included. It affords an important birdseye view of the state's possibilities as a producer of mineral wealth, and is therefore an important handbook for the prospective investor. It is as a reliable guide rather than as a final or detailed survey that the Bulletin is able to meet the needs of both layman and scientist.

THE ECONOMICS OF OREGON'S GOOD ROADS PROBLEM,

By Professor F. G. Young,

Head of Department of Economics, University of Oregon, and Secretary of the Oregon Conservation Commission.

The Economics of Oregon's Good Roads Problem, by Professor F. G. Young, is a practical monograph which in the clearest language of fact and theory presents this mooted problem to the citizens of the state. Its advocacy of the system of Apportionment of State Aid Funds and of a Highway Commission is based upon wide and careful observation and correspondingly sound theory.

Professor Young regards the good roads problem as the key to the situation in the matter of country life uplift. He points to the fact that where roads are neglected, farmers, in their "beleaguered" condition, are not only deprived of those social advantages "which constitute a large part of what is best in life", but find it difficult to maintain average cleanliness. He demonstrates that the need of good highways is of the same order as the need of food, shelter and raiment; that the farmers' needs in this matter should be the first to be considered and served, as "everybody has a stake in the cheapened cost of transportation of agricultural products and in the larger production that follows a readier access to markets"; and that the vealous interest of all users of the roads, automobile owners and tourists as well as farmers, should be concerned in those more permanent types of improvement which motor traction has necessitated. Professor Young suggests that farmers would gain a sense of mastery of the situation through "concerted and scietifically directed efforts along the lines of their greater interests." In a pointed paragraph he states that the amount and character of the traffic must determine the material and construction of the road, and that the amount of money that may "justifiably be expended on any proposed improvement can only equal the return that construction will yield."

It is for this reason that a clearly outlined plan of procedure for Highway development becomes necessary, and that a direct, scientific study of the conditions in each distinct locality should be made.

The County System of improvement has failed to yield uniform results and has proved to be expensive. It must be borne in mind that a road is an investment to secure returns in traffic benefits, and the acumen of the trained investor and organizer must be brought to bear upon the case. For this a "State Aid Policy" is best, for it secures (1) a more nearly equitable distribution of the costs, (2) the largest and best use of expert service in planning and supervising road construction, (3) the adaptation of different types of improvements to traffic needs. (4) Expert compilation of traffic statistics.

Of the various types of state highway departments, Professor Young especially commends a commission appointed by the Governor for a definite term of office, which is under the active direction of a state engineer selected and hired by them for a period "coincident with satisfactory service", and, working with these officials, an ex officio board composed of the State Geologist and the professors of civil engineering of the leading colleges of the state.

Copies of Professor Young's pamphlet have been in very considerable demand. They have been sent, upon request, to officials of the state grange, to the members of the Oregon Good Roads League, to Professor Blanchard, of Columbia University, New York City, for use in the graduate department of highway engineering, and in many other interested directions. The demand for the pamphlet is now keener than ever in view of the approaching election when numerous highway bills

will have to be voted on, and the University is seriously considering an extra issue to partially supply the demand.

The above are illustrations of types of welfare literature sent out from the University. In certain cases, like that of the Good Roads Bulletin, the restriction of funds for publication purposes has unduly limited the supply of available copies, the state having need of a very large edition whereas only a few hundred could be published. Other departments than those mentioned—for example, the department of biology and the department of history have important welfare publications to their credit also.

Through their advanced students, several departments have caused to be prepared valuable studies whose findings have been used for public ends like the drafting of laws; but for the publication of which no funds have been available.

COMMONWEALTH SERVICE OF THE DEPARTMENT OF ECONOMICS AND SOCIOLOGY.

This department, which keeps in vital touch with public questions of every order, has a strong force of graduate students and advanced under-graduate students continually occupied with investigations of the most practical character. At the present time, some of the young men are investigating the best systems of road upkeep employed in European countries and in those few American states which employ a road patrol. Others are at work on phases of political reorganization; on scientific budget-making for towns and cities, counties and the state; on plans of cooperative marketing of products to save farmers and others the middle man's profits; on cooperative agricultural credit-societies and on uniform systems of accounting for towns, counties, school districts, etc. Some of this work is being done to assist the Governor and other state officials and all of it will be of value to public officials, members of the Legislature, and to citizens who wish the fullest information upon these topics.

The department is prepared to assist, to the extent of its resources, any member of the Legislature or any city or county official who is interested in solving special problems in the public interest.

COMMONWEALTH SERVICE OF THE DEPARTMENT OF ENGINEERING.

Edward Hiram McAlister, M. A., Dean of the College of Engineering and Professor of Civil Engineering.

1. Testing, for municipalities, the strength of materials like cement, iron, steel, brick, stone and wood.
2. Standardizing tapes and chains for city and county engineers.
3. Investigation of problems along engineering lines which promise improvement in methods or results.
4. Cooperating in any practicable manner with county and state boards or commissions.

Richard Harold Dearborn, M. E., Professor of Electrical Engineering.

The Department of Electrical Engineering may be of service to:

1. *State Commisions*, in the
   Valuation of Electrical properties,
   Calibration of Electrical instruments,
   Regulation of rates for electricity.

2. *Municipalities*—

Tests of street lighting systems,
Tests of municipal electric plants,
Calibration and tests of electric meters.

3. *Industrial plants*—

Calibration and tests of electrical instruments,
Tests of electric motors and auxiliaries.

4. *Individuals*—

Uses and casts of various electrical appliances, lights, small motors, heating and cooking devices, flat-irons, etc.
Tests of house meters.

COMMONWEALTH SERVICE OF THE DEPARTMENT OF HISTORY.

The history department is prepared to aid communities intent on building up local historical associations, or other agencies calculated to enrich community life through an appeal to significant phases of their past. In this work the department is glad to cooperate with the Oregon Historical Society. Suggestions can be furnished such organizations for planning museums representative of local interests, for collecting and evaluating traditions with reference to their projected publication, for criticising historical narratives, and for investigating historical questions; also, for the use of the local history of a community as a means of vitalizing the work of the schools in that community.

Since the University Library is in possession of many scarce and some unique copies of books and manuscripts bearing on Oregon history, the department always takes pleasure in assisting investigators elsewhere to secure copies or summaries of such documents, when a reasonable amount of labor on the part of students or of the library staff will suffice for the purpose.

The department in the past has attended to all requests from interested inquirers into historical matters, particularly matters of recent political history in Oregon. So far as is consistent with the internal work of the department, such service will be continued with student assistance.

COMMONWEALTH SERVICE OF SCIENCE DEPARTMENTS.

As stated elsewhere, the department of Chemistry has afforded substantial aid to municipalities in the way of investigating water supplies, and has given valuable aid to industries like vinegar making by making careful researches into the processes which are applicable under Western Oregon conditions. The department, by throwing the light of science upon the subject, settled what was for many years a mooted question respecting the Nehalem wax deposit. This substance, often advertised as ozocerite, and held up to the public as a probably rich mineral deposit, the probable source of oil, was shown to be an oriental wax; its presence on the beach was explained on the theory of a ship wreck in the days when Spanish galleons carrying Manila wax sometimes ran upon the Oregon coast.

The Department of Chemistry in the future as in the past offers its facilities in the investigation of all kinds of natural products of the State of Oregon, both as to exactly what they may be and their possible uses.

Industrial engineering problems are welcomed. Considerable work has already been done dealing with the utilization of waste fruit, dairy, and forest products, and more is to be undertaken. The results are at the disposal of those interested.

This department is also in position to offer material assistance to municipalities desiring to obtain better water supplies. It keeps in close touch with both the theoretical and practical development of the problems of water purification.

Town or county officials contemplating the improvement of streets and roads by the use of asphaltic or bituminous material are invited to consult regarding specifications and details of inspection.

Legal questions involving chemical analyses and expert testimony are handled by this department with absolute impartiality.

A similar statement may be made for the other science departments—Biology, Geology, and Physics. The Department of Biology has been active in aiding the State Board of Health in the way of bacteriological tests of water, and it has concerned itself with all problems of health improvement; it has also performed valuable service in studying the conditions of fish culture and of oyster culture in Oregon.

The Department of Physics is prepared to cooperate with the School of Engineering in the work of standardizing instruments.

The Geology Department of the University of Oregon has at its command the unique and almost priceless collection of Oregon fossils assembled, at the cost of many years' labor by the late Professor Thomas Condon, mainly in the fossil beds of the John Day Valley, which he rendered famous. With the aid of this collection, one Eastern scientist was able to illuminate the life history of the horse, and many other significant problems have been advanced toward solution by the same means. The University invites scientific students and all interested persons to make use of this collection.

The Professor of Geology, who was for many years connected with the U. S. Geological Survey, has given much attention to economic geology, like coal and iron deposits. His advice is always at the service of the public.

COMMONWEALTH SERVICE OF THE SCHOOL OF EDUCATION.

The School of Education, founded a few years ago, at the University, has demonstrated its value to the commonwealth in a very direct way by training several hundred able teachers who are now actively employed in all sections of Oregon as superintendents, high school principals and high school instructors. In addition to this supreme service, the school has consistently endeavored to serve the people's interest by investigating the problem of how to improve the common school through a juster apportionment of taxes to that end, it has aided in developing the plan for rural high schools, and by careful investigation, has thrown much light on the problem of the Normal School. A one-time professor in this school—Hon. L. R. Alderman—began while here the study of methods of knitting more closely together the school and the home by the system of school credits for home industrial work. This idea is one of the bases of the extraordinary progress of the industrial education idea in Oregon.

The School of Education is prepared to confer with school officers upon any educational problem of general interest, and its advanced students are able and willing to investigate educational questions for which the University Library (now well equipped with recent educational reports and book literature), may hold the solution.

THE STUDENTS' PLEDGE OF COMMONWEALTH SERVICE AN AID TO DEPARTMENTS.

Since the unique ceremony in which, on the 16th of October, the students of the University of Oregon pledged to Governor West their

devotion to the commonwealth, the departments need no longer hesitate to ask their students to give to the types of work outlined above a reasonable portion of their time. Usually, a student's time is held to be his own to devote exclusively to his particular studies or expended otherwise as he sees fit. The University has established herein a new ideal of higher education, one which *vitalizes all study through active participation in Commonwealth Service.*

UNIVERSITY OF OREGON.

APPLICATION FOR REGISTRATION FOR CORRESPONDENCE WORK.

Name in full .....

Address .....

Age? ..... years. Occupation? .....

High schools, academies, etc., dates of attendance and grades finished?

.....

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College or colleges attended, with dates and class (i. e. Freshman, etc.) finished? .....

.....

Have you taught?..... When, where and how long?.....

.....

Will you probably enter the University, or take a degree?.....

Correspondence course wanted .....

.....

State definitely what work has been done in the line to be taken by correspondence .....

Do you wish to become a teacher in the line selected, or to pursue it for its general value? .....

General remarks: .....

.....

MSH 23354

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TITLE